

WHAT IS CLAIMED IS:

1. A compound represented by the formula:

A-L-D

wherein: A is an anchoring moiety that is
5 specific for a first target site on a protein;

L is a linking group; and

D is a drug, wherein D is specific for a
second target site on said protein.

2. A compound in accordance with claim 1,
10 wherein said anchoring moiety is a functional group capable
of covalent attachment to a target site.

3. A compound in accordance with claim 1,
wherein said anchoring moiety is a non-peptide affinity
ligand for a target site.

15 4. A compound in accordance with claim 1,
wherein said anchoring moiety is a sulfhydryl-reactive
group.

5. A compound in accordance with claim 4,
wherein said sulfhydryl-reactive group is a member selected
20 from the group consisting of methanethiosulfonate esters,
dithiopyridyl groups, cystine and maleimide.

6. A compound in accordance with claim 3,
wherein said non-peptide affinity ligand has a reactive
functional moiety selected from the group consisting of
25 α -diazo ketones, α -halo ketones, pentafluorophenyl esters,
and 2,4-dinitrophenyl esters.

7. A compound in accordance with claim 3,
wherein said non-peptide affinity ligand is a carbohydrate.

30 8. A compound in accordance with any one of
claims 1-7, wherein said linking group used to produce said
compound has a reactive group at both ends capable of
forming covalent bonds.

35 9. A compound in accordance with any one of
claims 1-7, wherein said linking group used to produce said
compound has a reactive group at one end capable of forming

a covalent bond.

10. A compound in accordance with claim 1, wherein said linking group comprises two parts with a complementary connector.

5 11. A compound in accordance with claim 10, wherein said connector is avidin and biotin.

12. A compound in accordance with claim 1, wherein said linking group is hydrophobic.

10 13. A compound in accordance with claim 12, wherein said hydrophobic linking group is selected from the group consisting of alkylene chains and aryl acetylenes.

14. A compound in accordance with claim 13, wherein said linking group is an alkylene chain.

15 15. A compound in accordance with claim 14, wherein said alkylene chain consists essentially of about 2 to 24 methylene groups.

16. A compound in accordance with claim 15, wherein said alkylene chain consists essentially of about 2 to 10 methylene groups.

20 17. A compound in accordance with claim 1, wherein said linking group is hydrophilic.

18. A compound in accordance with claim 17, wherein said hydrophilic linking group is selected from the group consisting of ethylene glycol chains, diamines, and diacids.

25 19. A compound in accordance with claim 18, wherein said linking group is a polyethylene glycol chain.

30 20. A compound in accordance with claim 19, wherein said polyethylene glycol chain consists essentially of about 2 to 14 ethylene glycol units.

21. A compound in accordance with claim 1, wherein said drug is an antineoplast.

35 22. A compound in accordance with claim 21, wherein said antineoplast is selected from the group consisting of vincristine, doxorubicin, cisplatin, bleomycin, cyclophosphamide, methotrexate, and

005070-400000

streptozotocin.

23. A compound in accordance with claim 1, wherein said drug is a local anesthetic.

24. A compound in accordance with claim 23, wherein said local anesthetic is selected from the group consisting of benzocaine, lidocaine, dibucaine, and chlorpronazine.

25. A compound in accordance with claim 1, wherein said anchoring group comprises a sulfhydryl group, said linking group comprises an ethyl group, and said drug is benzocaine.

26. A compound in accordance with claim 1, wherein said drug is an anti-hypertensive.

27. A compound in accordance with claim 26, wherein said antihypertensive is selected from the group consisting of propranolol, timolol, labetolol, clonidine, verapamil and hydralazine.

28. A compound in accordance with claim 1, wherein said anchoring group binds specifically to a peptide as shown in SEQ ID NO:5, said linking group is a polyethylene glycol chain consisting of 8-10 ethylene glycol units, and said drug is verapamil.

29. A compound in accordance with claim 1, wherein said anchoring group is methane thiosulfate, said linking group is a polyethylene glycol chain, and said drug is propranolol.

30. A method for the localization of a drug at a preselected target site, comprising administering to a host, a compound represented by the formula:

A-L-D

wherein

A is an anchoring moiety that is specific for a first target site on a protein;

L is a linking group; and

D is a drug,

wherein D is specific for a second target site on said protein.

31. A method in accordance with claim 30, wherein said anchoring moiety is a functional group capable of covalent attachment to a target site.

32. A method in accordance with claim 30, wherein said anchoring moiety is a non-peptide affinity ligand for a target site.

33. A method in accordance with claim 30, wherein said anchoring moiety is a sulfhydryl-reactive group.

34. A method in accordance with claim 33, wherein said sulfhydryl-reactive group is a member selected from the group consisting of methanethiosulfonate esters, dithiopyridyl groups, cystine and maleimide.

35. A method in accordance with claim 32, wherein said non-peptide affinity ligand has a reactive functional moiety selected from the group consisting of α -dialkyl ketones, α -halo ketones, pentafluorophenyl esters, maleimide and 2,4-dinitrophenyl esters.

36. A compound in accordance with claim 10, wherein said connector is two complementary oligonucleotides.

37. A compound in accordance with claim 1, wherein said drug binds to a member selected from the group consisting of a β -adrenergic receptor, a calcium channel, a sodium channel and a potassium channel.

38. A compound in accordance with claim 37, wherein said drug binds to a β -adrenergic receptor.

39. A compound in accordance with claim 37, wherein said drug binds to a calcium channel.

40. A compound in accordance with claim 37, wherein said drug binds to a sodium channel.

41. A compound in accordance with claim 38, wherein said drug is a member selected from the group consisting of propranolol, timolol and labetolol.

42. A compound in accordance with claim 39, wherein said drug is a member selected from the group consisting of a dihydropyridine and verapamil.

43. A compound in accordance with claim 39,
5 wherein said drug is a member selected from the group
consisting of a phenylalkylamine, a benzothiazepinone and
dialtiazem.

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